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EXAMINER				
TRAN, NHAN T				
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2622				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/691,141

Applicant(s)

UMEZU, TAKUJI

Examiner

NHAN T. TRAN

Art Unit

2622

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2/15/2008 with respect to claims 1, 3-8 have been considered but are moot in view of the new ground of rejection. It is noted that the new ground of rejection is based on *a new interpretation* of the previously cited reference of Nanjo (US 6,771,315).
2. Applicant's arguments with respect to claim 9 have been considered but are not persuasive.

The Applicant asserts that Nanjo does not teach "wherein the drive mechanism starts drive of the optical filter in a direction in which the optical filter is inserted into the region opposed to the light-passing aperture when the area of the light-passing aperture decreased to a predetermined area by the movement of the light-blocking members." The Applicant explains that the drive of ND filter is started when the drive of the diaphragm blades 2A and 3A from a full-open aperture position is started as shown in Fig. 11 (remarks, page 7).

In response, the Examiner understands the Applicant's arguments but respectfully disagrees.

Since the claim requires the word "when," this time frame is not necessarily the exact time but it is considered as an approximate time and thus reads on the disclosure of Nanjo in col. 9, lines 18-35, wherein the drive of the ND filter is started to drive into the aperture area when the aperture reaches a predetermined aperture α . That is

"Next, the ND filter driving mechanism 6 is driven to advance the ND filter into the diaphragm aperture....The advance of the ND filter 17 into the diaphragm aperture is started immediately before the diaphragm aperture takes the predetermined aperture size α ." It should be noted that the claim does not require "in response to" instead of "when."

In view of the above, the subject matter of claim 9 is met by Nanjo.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3-5, 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Nanjo et al. (US 6,771,315).

Regarding claim 9, Nanjo discloses a light-quantity adjusting apparatus (an exposure adjusting apparatus shown in Figs. 5, 9 & 10; col. 1, lines 6-14 and col. 11, line 66 – col. 12, line 20, wherein light quantity passing through aperture 15 is adjusted by diaphragm blades 2A, 3A and neutral density filter or so called ND filter 17 having filter portions 21a-21d) comprising:

a main body (a body of optical system shown in Fig. 5 where the objective lens, diaphragm blades and ND filter located) in which an opening (an internal opening to allow light passing through the optical system) is formed (see col. 10, lines 58-65 and col. 13, lines 7-11);

at least two light-blocking members (Figs. 9 & 10, blades 2A & 3A) moved with respect to the opening (the aperture 15) to change an area of a light-passing aperture (see col. 13, lines 13-24);

an optical filter (Figs. 9 & 10, ND filter 17 being held by holding member 5A) moved with respect to the opening to insert and remove with respect to a region opposed to the light-passing aperture (see Figs. 2A-2L and col. 13, lines 13-34);

an actuator (Fig. 9, motor 39) serving as a drive source (col. 12, lines 17-20);

a drive mechanism (combination of rotating plate 31, plates 5A, 3A and 2A shown in Fig. 9) for driving the light-blocking member and the optical filter by drive force from the actuator (col. 13, lines 13-24), wherein the drive mechanism has an operation range (operation range of 15° to approximately 45° of rotational angle along points S, L, M, N, O, P, Q, R, S' as illustrated in Fig. 11 and Figs. 2-3) in which a displacement amount (stroke amount shown in the vertical axis in Fig. 11) of the optical filter (the ND filter) with respect to the opening is made larger than a displacement amount of the light-blocking member with respect to the opening, while the actuator operates by a predetermined amount (see Figs. 2, 3, 11 and col. 13, lines 19-34, 50-53 and note that from point S to S', the displacement of the ND filter is clearly larger than the displacement of the diaphragm blades as illustrated by the larger linear slope), and

wherein the drive mechanism starts drive of the optical filter in a direction in which the optical filter is inserted into the region opposed to the light-passing aperture when the area of the light-passing aperture decreased to a predetermined area (predetermined area α) by the movement of the light-blocking members (see col. 9, lines 18-35, wherein the ND filter is driven to insert into the aperture area only when the aperture reaches the predetermined area α).

Regarding claim 1, this claim is also met by the analysis of claim 9. Additionally, Nanjo clearly shows, in Fig. 11, that a moving speed of the optical filter (an average moving speed of the ND filter) is higher than a moving speed of the at least two light-blocking members (an average moving speed of the diaphragm blades) throughout entire period of control operation (see Fig. 11).

Regarding claim 3, further disclosed by Nanjo, the drive mechanism has a first operation range (operation range of 15° to approximately 45° of rotational angle corresponding to point S to point S' shown in Fig. 11) in which the displacement amount of the optical filter is made larger than the displacement amount of the light-blocking member (see col. 13, lines 13-34) and a second operation range (operation range from 0° to 15° of rotational angle corresponding to point A to S in Fig. 11) in which the displacement amount of the optical filter is made smaller than that of the first operation range (Fig. 11 clearly shows that the ND filter movement in the operation range of 0° to

15° of rotational angle is small compared to the movement from the operation range of 15° to approximately 45° of rotational angle).

Regarding claim 4, as shown in Figs. 2, 3 & 10 of Nanjo, the drive mechanism drives the optical filter (the ND filter) on an insert side with respect to the opening in the first operation range (see Fig. 2(L)) and drives the optical filter on a remove side (see Fig. 2(A)) in the second operation range.

Regarding claim 5, Nanjo also discloses, in Figs. 9 & 10, the drive mechanism comprising: a first drive member (rotating plate 31), driven by the actuator (motor 30), for driving the light-blocking member (diaphragm blades 2A, 2B); a holding member (5A) holding the optical filter; and a second drive member (plate 5A), connected to the first drive member at a connection portion (connecting pin 35c) and driven by the first drive member, for driving the optical filter, wherein, on the connection portion, an interlocking mechanism (cam groove 34) is arranged, the interlocking mechanism includes a cam region (cam groove 34) in which the displacement amount of the optical filter with respect to the opening is made larger than the displacement amount of the light-blocking member with respect to the opening, while the actuator operates by a predetermined amount (see col. 13, lines 13-34. Also note the illustration of Figs. 11, 2 & 3 for a large displacement amount of ND filter in the range between point S and S' as discussed in claim 1).

Regarding claim 7, Nanjo discloses an optical apparatus (image pickup apparatus 50 shown in Fig. 5, col. 10, lines 58-65) comprising:

a light-quantity adjusting apparatus according to claim 1 (see claim 1 above); and
an image-taking optical system (optical system of apparatus 50 shown in Fig. 5) including the light-quantity adjusting apparatus (see Figs. 1, 5, 9 & 10; col. 9, lines 18-35; col. 10, lines 58-65 and col. 11, line 65 – col. 12, line 16).

Regarding claim 8, Nanjo also discloses a camera (camera 50 shown in Fig. 5 and col. 10, line 58 – col. 11, line 24) comprising:

a light-quantity adjusting apparatus according to claim 1 (see claim 1 above);
an image-taking optical system (optical system of apparatus 50 shown in Fig. 5) including the light- quantity adjusting apparatus (Figs. 1, 9 & 10); and an image pickup element (image sensor made of CCD 52) which photoelectrically converts an object image formed by the image-taking optical system into an electric signal (see col. 10, line 58 – col. 11, line 24).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nanjo et al. (US 6,771,315 B1) in view of Nanjo Yusuke (JP 11-064923).

Regarding claim 6, Nanjo '315 discloses that a ND filter portion (21a) inserted into the aperture region first has a width equal to another ND filter portion (21b) inserted into the aperture region second as the ND filter moving upward (see Figs. 2 & 3). Nanjo '315 does not explicitly disclose that, in the optical filter, the width of a portion inserted into the light-passing region first is larger than the width of a portion inserted into the light-passing region second.

As taught by Nanjo '923, an ND filter (22) is made such that its shape is similar to the V shape of the opening portion of a diaphragm blade. Nanjo '923 discloses that the top portion of the ND filter that inserts into the aperture first has a largest width while a portion inserted into the aperture after the top portion has a smaller width in a V-shape like configuration (see Nanjo '923 and Figs. 1-3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical filter (ND filter) in Nanjo '315 to have the width of a portion inserted into the light-passing region first is larger than the width of a portion inserted into the light-passing region second so as to reduce material for making the ND filter, thereby reducing cost of the apparatus.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **NHAN T. TRAN** whose telephone number is (571)272-7371. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nhan T. Tran/
Primary Examiner, Art Unit 2622